

ASSEMBLY BILL

No. 2110

Introduced by Assembly Member Ting
(Coauthors: Assembly Members Ammiano and Brown)

February 20, 2014

An act to add Section 51211 to the Education Code, relating to pupil instruction.

LEGISLATIVE COUNSEL'S DIGEST

AB 2110, as introduced, Ting. Pupil instruction: computer science:
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Existing law requires the Instructional Quality Commission to recommend, and the State Board of Education to adopt, curriculum frameworks, as provided. Existing law defines “curriculum framework” as an outline of the components of a given course of study designed to provide state direction to school districts in the provision of instructional programs. Existing law prohibits the state board from adopting instructional materials until the 2015–16 school year, except as provided.

The bill would require the state board to incorporate computer science curriculum content into the mathematics, science, history-social science, and language arts curriculum frameworks, as it deems appropriate, when those frameworks are next revised. The bill would require computer science curriculum to focus on foundational concepts in computer science by integrating basic skills in technology with simple ideas about computational thinking, communication, and collaboration, and being responsible citizens in a changing digital world, as specified. The bill would require the state board to consult classroom instructors to ensure the age-appropriateness of instructional material. The bill would, upon the incorporation of computer science curriculum content into the

curriculum frameworks, require the Superintendent of Public Intervention to identify and post on the State Department of Education's Internet Web site professional development resources for teaching computer science curriculum content. The bill would require its provisions to be implemented in a manner that does not result in new duties or programs being imposed on local educational agencies, as specified.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

1 SECTION 1. Section 51211 is added to the Education Code,
2 to read:
3 51211. (a) The state board shall incorporate computer science
4 curriculum content into the mathematics, science, history-social
5 science, and language arts curriculum frameworks, as it deems
6 appropriate, when those frameworks are next revised. This
7 curriculum shall focus on foundational concepts in computer
8 science by integrating basic skills in technology with simple ideas
9 about computational thinking, communication, and collaboration,
10 and being responsible citizens in a changing digital world.
11 (b) Computer science instruction shall be designed to help pupils
12 learn all of the following:
13 (1) Computational thinking, including, but not limited to, using
14 technology resources to solve age-appropriate problems,
15 understanding and using basic steps of algorithmic problem solving
16 with computer-free exercises, demonstrating that a string of bits
17 can be used to represent alphanumeric information, recognizing
18 that software is created to control computer operations, and
19 understanding the connections between computer science and other
20 fields.
21 (2) Collaboration, including, but not limited to, gathering
22 information and communicating electronically, and using
23 age-appropriate technology resources and tools to participate in
24 collaborative problem-solving activities for the purpose of
25 developing solutions or products.
26 (3) Computer practice, including, but not limited to, using
27 age-appropriate technology resources to gather, organize, and
28 manipulate data, using technology tools for individual and

1 collaborative writing, communication, and publishing activities,
2 constructing a set of step-by-step instructions to be acted out, and
3 identifying a wide range of jobs that require knowledge or use of
4 computing.

5 (4) Computers and communication devices, including, but not
6 limited to, demonstrating an appropriate level of proficiency with
7 input and output devices, understanding the pervasiveness of
8 computers in daily life, and identifying factors that distinguish
9 humans from machines.

10 (5) Community, global, and ethical impacts, including, but not
11 limited to, practicing responsible digital citizenship in the use of
12 technology, identifying the social and ethical impacts of technology
13 on personal life and society, and evaluating the accuracy, relevance,
14 and biases of electronic information sources.

15 (c) In implementing this section, the state board shall consult
16 classroom instructors to ensure the age-appropriateness of
17 instructional material.

18 (d) Upon incorporating computer science curriculum content
19 into the mathematics, science, history-social science, and language
20 arts curriculum frameworks at their next revision, the
21 Superintendent shall identify and post on the department's Internet
22 Web site professional development resources for teaching computer
23 science curriculum content.

24 (e) This section shall be implemented in a manner that does not
25 result in new duties or programs being imposed on local
26 educational agencies. In that regard, the Legislature finds and
27 declares that this section does not mandate costs to local
28 educational agencies, and that materials used to comply with this
29 subdivision shall be part of the normal instructional materials
30 purchased by local educational agencies in their normal course of
31 business and purchasing cycles.